## HYBRID ISOLATOR
### EHG723027BBD
### TECHNICAL SPECIFICATIONS

## HYBRID ISOLATOR – EHP723027BBD
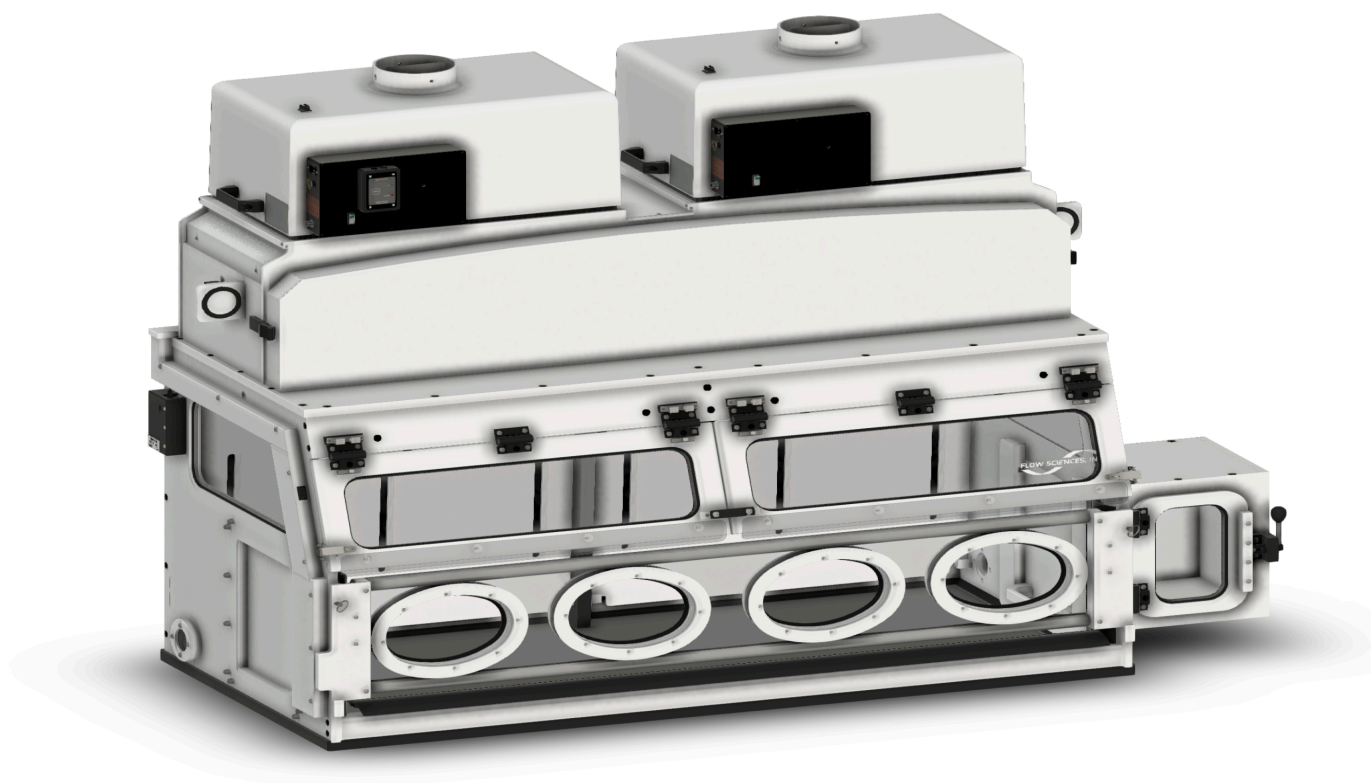


| GENERAL DESCRIPTION | |
|---|---|
| | DESIGNATED USAGE<br>Dual purpose laminar flow system for hazardous, non-sterile processes such as compounding and weighing.<br><br>PRIMARY ENGINEERING CONTROLS<br>Dual Speed Fan, Removable Glove Panel w/ Sensor, LED light, BIBO Dual HEPA filtration, integrated alarm<br><br>CONTAINMENT LEVEL<br>Heavily dependent on potency and quantity of the toxic material being worked with, this unit can contain to below nanogram levels and up to OEB 5. |

| MODEL SPECIFICATIONS | CONFIGURATION |
|---|---|

The EHP series basic setup includes a Removable Draft Shield with Glove Ports, Bag In/Bag Out Dual HEPA Filters, reversible pass through, 2" iris ports on both sides, and Blanked Plate on one side for optional continuous liner, disposal port, customized master port, RTP Alpha port, and pass-thru configurations.

PASS THRU

11.875" x 10" x 12" Internal Polypropylene framed box (can be mounted to either side)

| EXTERIOR DIMENSIONS | | INTERIOR DIMENSIONS | |
|---|---|---|---|
| Width: | 71.75" (84.88" with pass thru) | Width: | 69.75" |
| Depth: | 30.88" | Depth: | 24.72" |
| Height: | 56.41" | Height: | 27.00" |

| PASS THROUGH INTERNAL DIMENSIONS | | DOOR OPENING DIMENSIONS | |
|---|---|---|---|
| Width: | 11.88" | 7.00" | |
| Depth: | 10.00" | N/A | |
| Height: | 12.00" | 9.50" | |

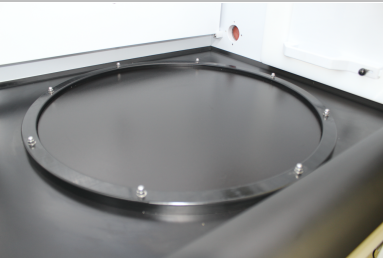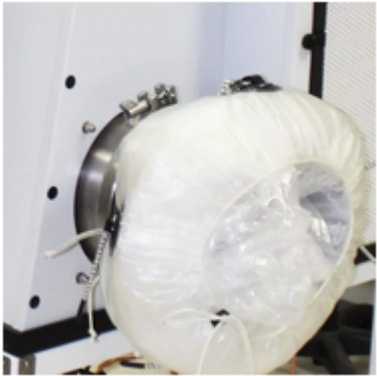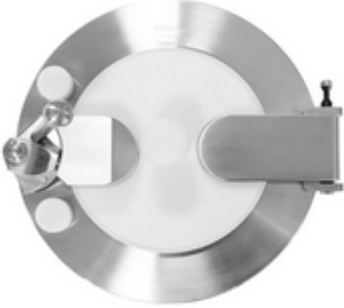| MATERIALS OF CONSTRUCTION | | |
|---|---|---|
| Wall panels: | White 0.75" Polypropylene | |
| Work surface: | Black 0.5" Phenolic Resin Base, Routed to Fit Sidewalls for Containment, 20" Bulk Powder Cutout, Delrin Ring Set. | |
| Viewing Panels: | 0.25" Acrylic | |
| Plenums/Baffle: | White 0.25" Polypropylene | |

| TECHNICAL SPECIFICATIONS | |
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LAMINAR AIR FLOW FILTRATION
- o Fan & filter modules are mounted on the top panel of the unit
- o Fan & filter modules provide HEPA (99.995% at mpps) vertically laminar filtered air
- o Air velocity: Recommended 75 ft/minute average +/-5 when measured at face opening (open faced)
- o Air velocity: Recommended 175 ft/minute average +/-5 when measured at slot (draft shield installed)

### FAN CONSTRUCTION

- o High speed balanced galvanized steel fan impeller wheel for low vibration and high energy efficiency.
- o Fan shroud fabricated from fiberglass.
- o Impeller Diameter = 9.8"
- o Overall output of 50-55 dB @ 3 feet at maximum air flow. Entire unit affords two orders of magnitude isolation from adjacent equipment vibration and four orders of magnitude isolation from fan vibration.
- o Fan speed control unit included to properly set flow rate.

### ELECTRICAL REQUIREMENTS

- o Fan: 120VAC, 50/60Hz, 1PH, 2.25AMPS, 270 WATTS at maximum flow, 5A FUSED.
- o LED Light: 100-240 VAC, 60/60 Hz, 2.0 Amps
- o Alarm integrated into fan
- o Hospital grade power cord supplied

### LIGHTING

- o LED Fixtures mounted in the top of the front panel all across the work surface
- o Natural cool white light (amber option available)
- o LED Lifetime 50,000 hours, 2600 lumens, max
- o 3.04A-0.97A @ 12V-30V DC, universal power supply
- o Luminous Efficiency: 90 Lumens/Watt typical at 24 V dc at 25°C

### CONTROLS

- o Light switch on/off button
- o Fan switch on/off
- o Integrated Fan Alarm with Lighted Status Indicator and Audible alarm
- o Hospital grade power cord

### WASTE & PORT

- o Two 2" Iris Ports, one on either side of the enclosure to the rear.
- o Pass thru one side, blanked plate on the other side

### VELOCITY ALARM

- o 0.2 Amps with dry contact feature provided
- o Integrated into top mount fan housing and equipped with red light which warns of low velocity; green light which indicates nominal containment velocity with proper certification

### DIFFERENTIAL PRESSURE GAUGE

- o Minihelic differential pressure switch/gage.
- o Pressure gage (0-1" wg; 0-250 pa) installed to monitor the loading of the primary HEPA filters.

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| | EXHAUST SPECIFICATIONS<br>   o   Operating range 60-90 LFPM (0.30-0.45 m/s).  Factory recommended face velocity 75 LFPM +/- 5 LFPM (0.38 m/s)<br>   o   With Draft shield installed (256) total CFM required to maintain 200 LFPM at the slot below the Draft shield<br>   o   With Draft shield removed (569) total CFM required to maintain 90 LFPM at face opening.<br>   o   With Draft shield removed and with thimble connection, (677) total CFM required to maintain 90 LFPM at face opening. |
| | EXHAUST RECOMMENDATIONS<br>   o   Use thimble connection (FS2081MS) for House Exhaust connections.<br>   o   No additional equipment required for independent recirculating configuration |
| | |
| DESIGN FEATURES | The Contained Vented Enclosure is designed with multiple features for maximum containment, ease of use, and ensuring a stable work environment for sensitive activities: |
| | EXHAUST PORT<br>   o   6" thimble connections to house system<br>   o   Capable of being recirculated back into the lab |
| | FS1650 ALARM<br>   o   FS1650 Integrated Face Velocity Alarm Alerts the operator when airflow is compromised. |
| | LED LIGHTING<br>   o   Standard with white light<br>   o   Optional add-on Amber LED Lighting |
| | FRONT LIFT DOORS<br>   o   Hinged front doors that lift for easy loading and unloading of equipment |
| | AIRFOILS<br>   o   Enclosure Quantity: Four (4)<br>   o   Airfoils staged around the perimeter of the face opening stabilize the airflow, improve laminar airflow, and improve containment along the leading edge. |
| | DISHED BASE<br>   o   Dished phenolic base captures accidental liquid and powder spills |
| | WASTE PORT<br>   o   Optional Waste port can be placed on either and/or both sides of the enclosure and is used to safely remove waste. |

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| | <u>PLENUMS</u><br>o Rear and Top Plenums are used to direct airflow and maintain containment at the face opening.<br>o Plenums also prevent particles from possibly falling back onto the work surface during loss of power and primary HEPA filter changeout. |
| | <u>BAG IN/ BAG OUT</u><br>o HEPA change out system that allows for safe removal and replacement of the main 4" HEPA filter. |
| | <u>PASS THRU CHAMBER</u><br>o One (1) transfer port included (can placed on either side)<br>o Transfer Port Opening external 7" x 9.5"<br>o Vertical sliding transfer door to access main chamber, outward swinging door to access outside<br>o Internal Pass through 11.88" x 12" |
| | <u>FRONT ACCESS PANEL</u><br>o Removable glove panel to enhance flexibility when working with high or low toxicity<br>o Increases flexibility for labs with varying OEB levels |
|  | <u>BULK POWDER CUT-OUT</u><br>o 20" Bulk Powder Cut-Out for use with 15" to 18" diameter drums Removeable cover for covering cut-out when not in use |
| PART #: G 8B1532975A | <u>GLOVE PORTS</u><br>o Quantity: 4<br>o Size: 8" diameter oval glove ports for the manipulation of process material<br>o Glove ports are mounted on the front removable panel<br>o The system includes:<br>    - Retaining O-rings<br>    - butyl gloves (9.75 hand size, ambidextrous) |
| | <u>CUSTOMIZED MASTER PORT</u><br>o The blank plate can be customized to install Iris Ports, Services, Transfer Systems and More |

| PART #: 2091 | DOUBLE SAFE WASTE CHUTE<br>○ Side Adapter<br>○ Waste chute with double sleeve protection, retaining band and bag. |
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| PART #: 2092 & APS0825 | 8" CONTINUOUS LINER SYSTEM<br>○ Integrated Continuous Liner System for safe waste disposal. Seal at any increment for disposal of waste in any amount. |
| PART #: 2093 | RTP ALPHA PORT<br>○ Accommodates a 105mm RTP Alpha port for connecting various betas or other containers |
| PART #: 2081MS | THIMBLE CONNECTION, 6" TO 7" TRANSITION<br>○ Thimble for connection to house exhaust. |
| PART #: 2062VK | VENT KIT, (8') 6" HOSE AND (2) HOSE CLAMP<br>○ Hose and Clamp for connection to house exhaust. |
| PART #: 2077 | PRINTER SHELF – NO ALARM MOUNT<br>○ Label printer shelf for above blank plate for label printing. |
| PART #: 8-000 | MEMBRANE KIT (MULTIPLE SIZES AVAILABLE BASED ON DRUM SIZE) |
| PART #: AFC241408A_(A/B) | CARBON FILTER 24x14 - ORGANIC<br>○ (2) Powder coated carbon steel frame containing 8 ABS plastic canisters with coconut shell activated charcoal media. |

| PART #: AFC241408B_(A/B) | CARBON FILTER 24x14 - ACID<br>o (2) Powder coated carbon steel frame containing 8 ABS plastic canisters with impregnated coconut shell activated charcoal media. |
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| PART #: AFC241408C_(A/B) | CARBON FILTER 24x14 -AMINE<br>o (2) Powder coated carbon steel frame containing 8 ABS plastic canisters with impregnated coconut shell activated charcoal media. |
| PART #: AFC241408D_(A/B) | CARBON FILTER 24x14 - ALDEHYDE<br>o (2) Powder coated carbon steel frame containing 8 ABS plastic canisters with impregnated coconut shell activated charcoal media. |
| PART #: ATC7230S | TABLE, 72 X 30, POWDER COATED STEEL TABLE<br>o Powder coated carbon steel cart, on frame and feet, leveling pads (±1.25" of travel). |
| PART #: ATS7230S | TABLE, 72 X 30, STAINLESS STEEL TABLE<br>o 304 Stainless steel table, on frame and feet, leveling pads (±1.25" of travel). |
| PART #: AEC7230S | ADA TABLE, 72 x30, ELECTRIC POWDER COATED TABLE<br>o Electric Ergonomic Lift Table, Powder coated carbon steel, on frame and feet, locking casters. |
| PART #: AES7230S | ADA TABLE, 72 x30, STAINLESS STEEL ERGONOMIC LIFT TABLE<br>o Electric Ergonomic Lift Table, 304 Stainless Steel, on frame and feet, locking casters. |
| PART #: ACC7230S | CART, 72 X 30, POWDER COATED STEEL CART<br>o Powder coated carbon steel cart, on frame and feet, locking casters. |
| PART #: ACS7230S | CART, 72 X 30, STAINLESS STEEL CART<br>o 304 Stainless steel cart, on frame and feet, locking casters. |
|  | SURROGATE POWDER TESTS (at an additional charge)<br>Surrogate powder testing available during factory acceptance testing.<br><br>IQOQ – INSTALLATION OPERATION QUALIFICATION (at an additional charge) |

| INSTALLATION AND VALIDATION | Flow Sciences is delighted to offer you Installation services to ensure the complete start-up of your Biological Safety Cabinet. |
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| INSTALLATION, START-UP AND TRAINING | INSTALLATION (at an additional charge)<br>Flow Sciences will send One (1) Technician onsite to install equipment within your facility. Flow Sciences may require additional assistance on site. If additional assistance is required, Flow Sciences will request your assistance or provide additional technicians from Flow Sciences (at an additional charge) if no client staff is available.<br><br>START-UP AND TRAINING (at an additional charge)<br>One (1) Flow Sciences technician will demonstrate the usage of the equipment and train your personnel on the usage of the equipment after the installation is complete. Flow Sciences will provide an operating manual which will include the as built drawings and all the materials certificates.<br>***Please note that proposal amount for Installation, Start-up and Training is for 1 days of work for one technician. Should the labour exceed this time frame, and hourly labour rate will apply. |